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New additives compositions for improving the lubricating power of low

sulfur petrol, diesel and jet fuels

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Number of Countries: 005 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2772783	A1	19990625	FR 9716538	A	19971224	19993
4 B						
JP 11209766	A	19990803	JP 98202357	A	19980716	19994
1						
NO 9904055	A	19991020	WO 98FR2823	A	19981222	20000
1						
			NO 994055	A	19990823	
BR 9807728	A	20000215	BR 987728	A	19981222	20002
4						
			WO 98FR2823	A	19981222	
HU 200001251	A2	20000828	WO 98FR2823	A	19981222	20005
5						
			HU 20001251	A	19981222	

Priority Applications (No Type Date): FR 9716538 A 19971224; FR 983225 A

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Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2772783	A1		26	C10L-001/22	
JP 11209766	A		10	C10L-001/18	
NO 9904055	A			C10L-000/00	
BR 9807728	A			C10L-001/18	Based on patent WO 9933938
HU 200001251	A2			C10L-001/18	Based on patent WO 9933938

Abstract (Basic): FR ~~2772783~~ A1

NOVELTY - New additive formulations which restore the lubricating

properties of motor fuels depleted of sulfur and aromatic compounds.

DETAILED DESCRIPTION - New oiliness additives for motor fuels, particularly those with a S content less than 500 ppm, which mainly

comprises 5 - 95% of a glycerol monoester 1A or 1B;

R1-(CO)-O-CH₂CHOH-CH₂OH (IA);

R1-(CO)-O-CH(CH₂OH)₂ (IB);

R1=linear 8 - 24C alkyl (optionally unsaturated) or cyclic or

polycyclic 8 - 60C alkyl

and 5 - 95% of a compound (II);

R2-(CO)-X ; (II)

R2=linear 8 - 24C alkyl (optionally unsaturated) or cyclic or

polycyclic 8 - 60C alkyl;

X=1 - 8C mono- or polyalcohol ester, or 1 - 18C primary or

secondary amine, aliphatic alkanolamines and polyamines.

INDEPENDENT CLAIMS are also included for the preparation of the

additive and fuel compositions containing these additives.

USE - The additive composition is used to improve the oiliness

characteristics of petrol, diesel and jet fuels, more particularly low

sulfur diesel fuels.

ADVANTAGE - The composition acts as a replacement for sulfur

compounds, aromatics and polar compounds refined out of fuels for

reasons of pollution. Loss of lubricating properties results from

depletion of these products. The new additive compositions are

compatible with other additives (particularly detergents and lubricating oils) and are effective at low concentrations (less than

0.5%).

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Derwent Class: E19; H06

International Patent Class (Main): C10L-000/00; C10L-001/18; C10L-001/22

International Patent Class (Additional): C10L-001/14; C10L-010/04

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>>>ANPRYYT is not a MAP code in File 351

>>>No items to MAP

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1 Select Statement(s), 2 Search Term(s)

Serial#TD843

Addition of oxygenated additives to diesel fuel to control lubricity. Not specific to FT fuels.

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FR-0016538 2/24/1997 (ERAP) ELF ANTAR FRANCE SA - (ERAP) ELF ANTAR FRANCE

AB - FR2772783 A NOVELTY - New additive formulations which restore the lubricating properties of motor fuels depleted of sulfur and aromatic compounds. - DETAILED DESCRIPTION - New oiliness additives for motor fuels, particularly those with a S content less than 500 ppm, which mainly comprises 5 - 95% of a glycerol monoester 1A or 1B; - R1-(CO)-O-CH₂CHOH-CH₂OH (IA); - R1-(CO)-O-CH(CH₂OH)₂ (IB); - R1 = linear 8 - 24C alkyl (optionally unsaturated) or cyclic or polycyclic 8 - 60C alkyl - and 5 - 95% of a compound (II); - R2-(CO)-X ;(II) - R2 = linear 8 - 24C alkyl (optionally unsaturated) or cyclic or polycyclic 8 - 60C alkyl; - X = 1 - 8C mono- or polyalcohol ester, or 1 - 18C primary or secondary amine, aliphatic alkanolamines and polyamines. - INDEPENDENT CLAIMS are also included for the preparation of the additive and fuel compositions containing these additives. - USE - The additive composition is used to improve the oiliness characteristics of petrol, diesel and jet fuels, more particularly low sulfur diesel fuels. - ADVANTAGE - The composition acts as a replacement for sulfur compounds, aromatics and polar compounds refined out of fuels for reasons of pollution. Loss of lubricating properties results from depletion of these products. The new additive compositions are compatible with other additives (particularly detergents and lubricating oils) and are effective at low concentrations (less than 0.5%). (Dwg.0/0) TF - TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Mixture: The preferred additive mixture comprises at least 70% of the combination above, of which 10 - 40% is IA and/or IB and 60 - 90% is a compound II. The composition also contains up to 30% (more preferably 5 - 20%) of a di-ester IIIA and/or IIIB; R3-(CO)-O-CH₂-CHOH-CH₂-O-(CO)-R4 (IIIA); R3-(CO)-O-CH₂-CH(CH₂OH)-O-(CO)-R4 (IIIB); - R3, R4 (identical or different) = as R1 and R2. - The ester of formula (I) are derived from lauric, palmitic, linoleic, linolenic or ricinoleic acids; or polycyclic acids with at least two 5 - 6 atom rings and no more than one heteroatom (N or O), the rings preferably vicinal and optionally unsaturated. These are obtained from natural resin acids, preferably abietic, dihydro-, tetrahydro- and dehydro-abietics, neoabietic, pimaric, levopimaric and parastrinic acids. The esters and amides of formula (II) are obtained by reaction of an alcohol, polyol, amine, polyamine and/or alkanolamine with an acid such as oleic or methyl oleate. - Preferred Preparation: The preferred preparation consists of reacting a mono- or polyalcohol, alkanolamine, primary or secondary amine or polyamine with a triglyceride (IV) in a molar ratio 0.1 - 3 (more preferably 1.5 - 2.5 moles/mole of triglyceride); - R11, R12 and R13 (identical or different) = 8 - 24C alkyl(optionally unsaturated). - The reaction is effected at ambient to 250degreesC (more preferably 80 - 200degreesC) for 0.5 - 10 hours (more preferably 2 - 4 hours) under atmospheric pressure and in the presence of 25 - 75% of a solvent (a xylene or ethylbenzene or an aromatic cut of 190 - 209degreesC). The triglycerides are derived from vegetable or animal sources particularly maize, colza, tournesol, soya and ricins. The mono-alcohols are selected from MeOH up to 2-ethyl hexanol, and /or oxyalkylated alcohols such as methyl cellosolve. - R(O-CH₂-CHR1)_n-OH; - R = 1 - 6C alkyl; - R1 = 1 - 4C alkyl; - n = 1 - 4. - The polyol is selected from ethylene glycol, diethylene glycol and 13 other compounds; the primary or secondary amine are chosen from methylamine, N,N-

diethylamine and 7 other compounds, including polymers resulting from hydrogenation of addition products of a 8 - 18C fatty amine with acrylonitrile, e.g. N-oleylpropanediamine; the alkanolamines are chosen from 1 - 18C amines substituted by hydroxymethyl, hydroxyethyl or hydroxypropyl such as ethanolamine, disthanolamine and 9 other compounds. - The preferred reaction product comprises: 5 - 25% wt. of IA and/or IB; 20 - 60% wt. of II ; 0.1 - 20% wt. of IIIA and/or IIIB; and a residue of triglyceride IV. - Preferred fuel compositions of low S content contain 25 - 2500 ppm (more preferably 100 - 1000 ppm) of an additive mixture as defined above, including petrols defined by ASTM D-439 (optionally containing an oxygenated compound) and diesels, defined by ASTM D-975.